Application No.: 09/631.638

Confirmation No.: 8662 Response to Office Action dated: June 2, 2004

Amendments to the Claims

This "Listing of Claims" replaces all prior versions of claims in the subject application:

1. (Currently Amended) A process for the recovery of an organic acid from a

fermentation broth comprising the steps of:

conducting a fermentation with an organic acid producing (a)

microorganism to produce a fermentation broth, wherein the fermentation broth

comprises an containing said organic acid and insolubles comprising all microbial

biomass resulting from said fermentation with said organism;

(b) drying said fermentation broth to obtain an organic acid-containing dried

product containing said organic acid and said insolubles comprising said microbial

biomass, wherein said drying occurs without prior removal of any of said insolubles

comprising said microbial biomass from said organic acid-containing fermentation

broth;

(c) adding said organic acid-containing dried product of step (b) to a lower

alcohol in the presence of an strong acid, wherein said acid can be any acid which

allows for selective recovery of the desired organic acidto obtain a solution containing

said insolubles; and

(d) removing said insolubles comprising said microbial biomass to obtain an

solution comprising said organic acid, wherein the insolubles include the microbial

biomass.

2-4. (Cancelled)

5. (Currently Amended) The process of claim 1, wherein in step (cb) the

concentration of said organic acid added to said lower alcohol is from about 50 g/L to

about 100 g/L.

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6. (Currently Amended) The process of claim 1, wherein in step (<u>ba</u>) drying comprises spray drying said fermentation broth.

- 7. (Currently Amended) The process of claim 1, wherein in step (cb) the reaction temperature is from about 25° C to about 60° C.
- 9. (Currently Amended) The process of claim 1, wherein in step (cb) about 1.2 equivalents of said acid is present.
- 10. (Currently Amended) The process of claim 1, wherein in step (<u>c</u>b) said lower alcohol is selected from the group consisting of methanol, ethanol, propanol, butanol and glycol.
- 11. (Currently Amended) The process of claim 1, wherein in step (cb) said acid is selected from the group consisting of sulphuric acid, nitric acid, hydrobromic acid, hydrochloric acid and phosphoric acid.
- 12. (Currently Amended) The process of claim 11, wherein in step (cb) said acid is sulphuric acid.
- 13. (Currently Amended) The process of claim 1, wherein in step (de) removing insolubles comprises filtration.
- 14. (Original) The process of claim 1, wherein said organic acid comprises lactic acid, 2-keto-L-gulonic acid, citric acid or gluconic acid.
- 15. (Original) The process of claim 14, wherein said organic acid is 2-keto-L-gulonic acid.
- 16. (Currently Amended) The process of claim 1, further comprising esterifying said organic acid of step (de) to the corresponding ester.
- 17. (Currently Amended) A process for the recovery of an organic acid from a fermentation broth comprising the steps of:

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(a) conducting a fermentation with an organic acid producing
microorganism to produce a fermentation broth containing said organic acid and
insolubles comprising all microbial biomass resulting from said fermentation with said
organism;

- (ab) drying said organic acid-containing fermentation broth to obtain an organic acid-containing dried product containing said organic acid and said insolubles comprising the microbial biomass, wherein said drying occurs without prior removal of insolubles comprising said microbial biomass from said-organic acid-containing fermentation broth and said dried product contains all of the microbial biomass;
- (bc) adding said organic acid-containing dried product of step (a) to a lower alcohol to obtain an alcoholic suspension;
- (e-d) adding an a strong acid to said alcoholic suspension of step (b), wherein said acid can be any acid which allows for selective recovery of the desired organic acid; and
 - (de) removing the insolubles to obtain an organic acid.
- 21. (Currently Amended) The process of claim 17, wherein in step (bc) the concentration of said organic acid added to said lower alcohol is from about 50 g/L to about 100 g/L.
- 22. (Currently Amended) The process of claim 17, wherein in step (ab) drying comprises spray drying said fermentation broth.
- 23. (Currently Amended) The process of claim 17, wherein in steps (bc) and (ed) the reaction temperature is from about 25° C to about 60° C.
- 24. (Currently Amended) The process of claim 17, wherein in step (bc) said lower alcohol is selected from the group consisting of methanol, ethanol, propanol, butanol and glycol.

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- 25. (Currently Amended) The process of claim 17, wherein in step (e-d) about 1.2 equivalents of strong acid is added.
- 26. (Currently Amended) The process of claim 17, wherein in step (e-d) said strong acid is selected from the group consisting of sulphuric acid, nitric acid, hydrobromic acid, hydrochloric acid and phosphoric acid.
- 27. (Currently Amended) The process of claim 26, wherein in step (e-d) said acid is sulphuric acid.
- 28. (Currently Amended) The process of claim 17, wherein in step (de) removing insolubles comprises filtration.
- 29. (Original) The process of claim 17, wherein said organic acid comprises lactic acid, 2-keto-L-gulonic acid, citric acid or gluconic acid.
- 30. (Original) The process of claim 29, wherein said organic acid is 2-keto-L-gulonic acid.
- 31. (Currently Amended) The process of claim 17, further comprising esterifying said organic acid of step (de) to the corresponding ester.